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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/579,849 | 05/17/2006 | Friedrich Boecking | R.305573 | 5956 |

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| EXAMINER |
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NGUYEN, DINH Q

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| ART UNIT | PAPER NUMBER |
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3752

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/13/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/579,849

Applicant(s)

BOECKING, FRIEDRICH

Examiner

Dinh Q. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule.17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5/17/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a guide gap between the two valve elements" in lines 1 and 2, and the "a chamber" in lines 2 and 3 of claims 25-28 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 25-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitations "a guide gap between the two valve elements" in lines 1 and 2, and the "a chamber" in lines 2 and 3 of claims 25-28 are not disclosed in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim(s) are narrative in form and replete with indefinite and functional or operational language, failing to conform to current U.S. practice. They appear to be a **literal translation** into English from a foreign document. The claims appear to be a list of the elements of the invention without a clear explanation of each element's placement. The structure that goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. Applicant is advised to completely review the claims for errors. For example: in claim 10, line 5, the limitation "a first sealing region" is being used without referring of a second sealing region. In claims 12-21 there are several grooves are being

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referred to but without any positively and clearly recitations for each of the grooves to differentiate one from the other, according to figures 2-4, there are groove 68, groove 80, and groove 74, wherein groove 74 having three different variations (figures 2, 3, and 4). Applicant is required to clearly identify each of the grooves and the variations.

Claim 10 recites the limitation "the outer valve element" in line 4 and "the inner valve element" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the manufacturing" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the edge" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the edge" in line 2 and "the encompassing groove" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the edge" in line 2 and "the encompassing groove" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the edge" in line 2 and "the axial direction approximately from the encompassing groove" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the edge" in line 2 and "the axial direction approximately from the encompassing groove" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 17, 18, 19, 20 and 21 recite the limitation "the edge" in line 2. There is insufficient antecedent basis for this limitation in the claims.

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6. For the purpose of this Office action, the claims will be examined as best understood by the examiner.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10, 17-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Boecking (DE 101 55 227 A1) as best understood by the examiner.

Boecking discloses a fuel injector comprising: a housing 1, two valve elements 5/7 to each at least one fuel opening 12/14 is assigned to, an outer valve element 5, a first sealing region 32 that cooperates with a valve seat 10 that separating the at least one fuel opening 12/14 from a high pressure connection 16, a second sealing region/an annular protuberance 30 is embodied on an edge of an encompassing narrow deep groove 6, and a guide gap between the two valve elements (at the down stream tip of the outer valve element 5 that comes in contact with frusto conical area 207 in figure 2).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 11 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boecking (DE 101 55 227 A1) as best understood by the examiner.

Boecking teaches all the limitations of the claims except for a clearance of 1-2 μm between the outer valve element and the valve seat. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide the device of Boecking with the clearance of 1-2 μm between the outer valve element and the valve seat, because Application has not disclosed that the clearance of 1-2 μm between the outer valve element and the valve seat provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either claimed dimensions or the Boecking dimensions. Therefore, it would have been an obvious matter of design choice to modify the device of Boecking to obtain the invention as specified in claims 11 and 29.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to show the art with respect to a fuel injector: Hofmann, Schlaf et al., Cooke et al., and Kuegler.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dinh Q. Nguyen whose telephone number is 571-272-4907. The examiner can normally be reached on Monday-Thursday 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dinh Q. Nguyen
Primary Examiner
Art Unit 3752

dqn